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ABSTRACT

A review of the literature of early adolescence was conducted to provide background information for instructional designers and scriptwriters from the Skills Essential to Learning Project, which develops television/film series and related print materials for different grade levels to enhance the teaching of thinking skills in the context of major curriculum areas. Based on traditional development literature supplemented by current research, a profile of how seventh and eight graders see themselves and the world around them was developed. This profile indicates that children at that stage are on the threshold of adulthood and full of energy, though often disorganized and coping with many changes. Physically, 12- and 13-year olds are in a period of rapid physical change that may make them feel awkward at times. Intellectually they may be developing a more flexible and abstract view of the world. Socially, they seem to be searching for some stability within their wider social role. Because of all the changes occurring, this period may be viewed as an exciting time of life, but it may also be a potentially difficult time for the individual. (LMM)

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EARLY ADOLESCENCE

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The Skills Essential to Learning Project (SEL) is a cooperative effort by state and provincial agencies to strengthen learning skills instruction in American and Canadian Schools. The Project develops television/film series and related print materials for different grade levels to enhance the teaching of thinking skills in the context of major curriculum areas. It is organized and managed by the Agency for Instructional Television, a non-profit American-Canadian organization established in 1973 to strengthen education through television and other technologies. AIT develops joint program projects involving state and provincial agencies, and acquires and distributes a wide variety of television and related printed materials for use as major learning resources. It makes many of the television materials available in audiovisual formats. AIT's predecessor organization, National Instructional Television, was founded in 1962. The AIT main offices and Midwestern office are in Bloomington, Indiana; there also are regional offices in Washington, D.C. and San Francisco areas.

The working paper reported here was written by Mary F. Andis, a member of Project staff.

EARLY ADOLESCENCE

January 1981

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Early adolescence is the phrase often used to identify the developmental stage of the 12- or 13-year-old, typically a child in the seventh or eighth grade of school. If this phrase does not bring to mind a host of ideas about 12- and 13-year-olds' developmental needs, or even about what they are like at this age, it may be because in the developmental literature this is largely a forgotten age. Seventh and eighth graders have not been as thoroughly researched as elementary children or full-fledged adolescents. Young adolescents too often are simply thought of as youngsters in transition -- moving between elementary school and senior high school.

There is a reason, however, to hope that this situation is being remedied. A recent flourish of interest in curricula for middle schools has created a new demand for information about the middle-school age group, including seventh and eighth graders. The 1980 yearbook of the National Society for the Study of Education (NSSE) reflects this interest in its title, Toward Adolescence: The Middle School Years. In this book, Joan Lipsitz, Director, Center for Early Adolescence, University of North Carolina, has a superb chapter that provides some new perspectives on early adolescence. She defines the age group and then discusses the psycho-social tasks. She dispels a number of misconceptions we have about early adolescence, such as homogeneity of the group, the period of storm and stress in life, and the tyranny of the peer group.

Other researchers, even in the biological sciences, are now contributing to our knowledge about development during early adolescence. Studies

on brain growth, for example, have prompted speculation on the cognitive needs of middle school age children and the need to reorganize curricula for middle schools (Epstein & Toepfer, 1978). It is too soon to determine how the recent studies, both within education and outside, will affect our perceptions or our developmental theories. But, to help round out the traditional literature, recent studies are cited in this paper that provide insight into the kinds of exciting questions being raised.

It is true, of course, that the developmental literature is rich with the writings and theories of a few traditionally accepted psychologists, such as Jean Piaget and David Elkind. Their work is widely respected and reflected, in large measure, by the body of literature summarized and cited in this paper. But, beyond the updated interpretations of their work, often by other psychologists, there is little.

The central purpose of this paper is to build a profile, based on the best information available, of what seventh and eighth graders are like: How do they see themselves? How do they see the world around them? For this purpose, the traditional developmental literature, supplemented by current research, is complete enough to construct a useful composite profile. The picture that begins to emerge is that of a child on the threshold of adulthood, full of energy though often disorganized, and coping with many changes -- physical, mental, and social. As Dickens might have said: It is the best of times and the worst of times.

Physical Development

Physical changes, such as growth spurts and the appearance of secondary sex characteristics, are the most obvious characteristics of physical de-

velopment for seventh or eighth graders. Other physical changes include the redistribution of body weight and the maturation of the reproductive system. For most, a period of rapid growth, bringing about these physical changes, occurs some time during the years from 10 to 14. But, there is a great deal of variability in development, not only among girls and among boys, but also between the two sexes. Boys often experience increased height and muscle mass, which may bring better athletic skills. It may also bring awkwardness because growth does not take place at the same rate in all parts of the body. Girls begin to mature physically about two years before the boys, with the time taken by girls to reach full physical maturity ranging from one and a half to six years. As a result, 12- and 13-year-old girls and boys are generally more physically diverse than they were in earlier grades.

This period of rapid physical change occurs because the pituitary gland increases production of two hormones. One stimulates the growth of bones and tissues and the other influences sexual development and the appearance of secondary sexual characteristics. The resulting fluctuation in basal metabolism may cause the young adolescent to be extremely restless at certain times and listless at others. In connection with this, the young adolescent's attention span may be shorter than it is either prior to or later than this period of rapid physical change. The young adolescent's rapidly growing and changing body may be difficult to manage, and he or she may feel awkward, gawky or clumsy.

Newman and Newman point out that physical changes for young adolescents have important psychological consequences. They bring the adolescents closer to images of themselves as adults. They strengthen each young adolescent's sex-role identification. They may cause young adolescents to become more

narcissistic and self-involved as a way to cope with the rapidity of body changes. Finally, they may be met with ambivalent feelings that lead young adolescents to seek peer approval and support. This, in turn, may produce additional stress, since an individual may become embarrassed about physical changes that do not meet his or her perceptions of what is needed to gain peer approval.

Intellectual Development

While physical changes are occurring for young adolescents, certain intellectual changes seem to be occurring as well. The physical changes are obvious. The intellectual changes are less obvious and less clear-cut. Presently, the literature gives us some possible perspectives, though none are really well documented.

The traditional developmental literature draws on Piaget's work which suggests that 12- or 13-year-olds begin the shift into the developmental stage of formal operations, the stage of adult thinking abilities. Young adolescents' thoughts become governed more by logical principles rather than by their own perceptions and experiences. They are better able to use formal reasoning and to think more logically about hypothetical situations, such as "What if it rained all the time?"

We should not, however, mistake a potentiality for a universal phenomenon. "The shift to formal operations is unlikely to occur before early adolescence; it is most likely to occur, if at all, during adolescence; it does not necessarily occur" (Lipsitz, p. 17). Unfortunately, there is no clear way to identify those who do make the shift or to estimate how many are likely to. This traditional perspective strongly implies, however, that

enough young adolescents are moving toward formal operations for professionals, in particular, to encourage the growth and development of adult thinking potential at that age.

If and when young adolescents make the shift to formal operations, they begin to develop a more flexible and abstract view of the world. The following list summarizes some of the specific thinking abilities that the literature suggests these young adolescents develop:

- They can think about more than two categories of variables at the same time. They can deal with problems in which many factors operate concurrently, such as the relationship between speed, distance, and time in planning a trip.
- They can do introspective thinking. They can reflect upon their own mental and personality traits.
- They can think about their own relations to the world in which they live.
- They can identify inconsistencies of logic in a set of statements.
- They can hypothesize about the logical sequence of events that might occur. In fact, they can recognize that a sequence of events will lead to a particular consequence and can begin to see that a change in one of the events might prevent that consequence.
- They can speculate about changes in the future. They are interested in the future and in future life styles. This may manifest itself in a budding interest in future career selection.
- They can recognize the use of visual language and body language, as well as the part each can play in making one's point or understanding another's point. They are just beginning to realize that there are different forms of communication and can select forms to meet different purposes.

Another possible perspective on cognitive development is presently emerging from the biological sciences. Herman T. Epstein and Conrad F. Toepfer, Jr., have pioneered research on brain growth. Their work appears to be the biological verification that stages of intellectual development do exist. An article for Educational Leadership in May 1978 succinctly

summarizes the findings of these two researchers:

> The human brain increases in weight from 350 grams at birth to about 1,400 grams at brain maturity at about age 17. This increase has been found to consist of two components. The first component is one that is proportional to the increase in body size. The second component appears in a set of five discrete periods of extra growth, approximately in the age intervals of 3 to 10 months; 2 to 4 years; 6 to 8 years; 10 to 12 years, and 14 to 16 years. These brain growth spurts appear in normal children from quite a number of countries.
>
> The significance of the spurts is likely to reside in some of the special functions of the brain because it would otherwise make no sense to have such a set of spurts. This conjecture turns out to be correct because, if we look at the development of mind (as distinguished from brain), correlated spurts can be found in mental age and a number of intelligence-associated tests such as tests of memory, vocabulary, or language utilization.
>
> There is also evidence that these brain growth spurts correlate in age with learning capacity. Data have established a peak around age 11 and a very low (near zero) value for "gf" (the fluid intelligence factor) around age 13 to 13.5 years. In addition, as can be seen from examining the ages of growth spurts, the spurts appear at the turning points of the classical main stages of Piaget's set of intelligence development periods. These brain growth periods may turn out to be the biological basis of the Piaget stages (Epstein & Toepfer, p. 657).

Brain growth research raises some interesting possibilities. If there is virtually no increase of brain size and mass in the large majority of 12-to-14-year-olds, does that mean that this age group cannot handle the "more complex thinking processes" introduced in seventh and eighth grade? Does it mean young adolescents are less capable of acquiring "new" cognitive skills? Epstein and Toepfer think so. They feel this is a time for maturation in cognitive skills already initiated and learned rather than in the acquisition of new skills. Their advice for seventh and eighth grade is to "avoid introduction of new cognitive skills and include a much larger component of experience and practice of skills already acquired in the cognitive

area" (p. 658). Unfortunately, they do not fully explain what they mean when they talk about "complex thinking processes" or "new cognitive skills" and that leaves some question in regard to a complete interpretation.

An outgrowth of this perspective is a suggestion for restructuring the middle grades program. Epstein and Toepfer feel that the implication of their research is a middle school curriculum offering life-related possibilities. The curricula should "include a large component of experience and practice of skills within opportunities of interaction with nature, society, and people" (p. 660). They feel the middle school experience might have to be moved outside the walls of the school where cognitive information could be taught in relation to outside activities.

It is too soon to determine what this research means in terms of our perceptions on intellectual development for seventh and eighth graders. More research relating biological information to the actual educational experience is needed. In the meantime, brain growth research forces a closer look at the intellectual needs and capabilities of the seventh- and eighth-grade group.

Social Development

A number of the social aspects of the early adolescence phase may be a result of, or certainly related to, physical and intellectual changes. Numerous signs of burgeoning social development are intermeshed with the rapid physical changes and the internal intellectual changes mentioned previously.

Barbara and Phillip Newman state that academic skills that are to be taught should appear as socially valued to young adolescents (Newman &

Newman, p. 1). Certainly the social aspects of schooling increase in importance and intensify for 12- and 13-year-olds. Many of the characteristics of the social development for this age group are easily identifiable. Several authors have recently added new dimension to our understanding of those identifiable social characteristics and the suspected reasons for them.

The most obvious social characteristic is the importance of the peer group. This is a time when boys and girls are very sensitive to peer influence and membership. There is an acute need for acceptance by peers. Prestige among peers is more important than adult approval. They want to be like their peer group. For them, to be different is to be doomed. Their individual feelings of self-esteem are on the line. They are intensely self-conscious because they are concurrently experiencing physical, social, emotional, and idea changes. Consequently, young adolescents need peers and adults to give them a chance to develop a sense of competence.

> The young adolescent needs peer support and companionship in developing new beliefs and values. . . . Friends are the life-line of adolescents during these years. Because they lack a repertoire of experience, they may feel a deep sense of loneliness and a high degree of vulnerability (Lipsitz, p. 24).

Peer membership involves two types of relationships during early adolescence. One is the establishment of close friendships with peers of the same sex. The other is the emerging importance of boy-girl relationships. There is a growing interest in the opposite sex on the part of both boys and girls. This increased interest may stem from the physical maturation of the reproductive system that is occurring at the time.

> Development of primary and secondary sex characteristics as well as the increased sensitivity of these body parts generates thoughts and

> fantasies about heterosexual relationships. In addition, the culture comes to expect that adolescents will begin to date, flirt, and experience tenderness (Newman & Newman, p. 11).

It may be difficult for young adolescents to balance these two types of peer relationships.

> Too much involvement with a boy-girl relationship may isolate young people from less formal, less intense peer contacts. On the other hand, too much concern over peer acceptance and peer group participation may make the possibility for close boy-girl relationships rather remote. The adolescent has to establish a sense of which personal needs can be met by these two kinds of peer contact and learn to balance his [her] involvement appropriately (p. 11).

The growing importance of the peer group does not necessarily mean that young adolescents lose a sense of personal identity or independence. For them, Lipsitz states, "Individuation is grounded in a world of others" (p. 14). Young adolescents are learning to become a part of a group and, at the same time, are establishing a sense of self within a group.

> For this reason the vulnerability of young adolescents to their social milieu is great. Adolescents depend upon others to reflect to them a positive, real image of self that can be integrated with a personal inner image. They are dependent upon society to have a coherent sense of purpose for its young people with which, and in opposition to which, they can define themselves (p. 14).

While young adolescents strive to establish themselves within a peer group, they also search for autonomy. The two seem contradictory. It is this very contradiction that the young adolescent must balance.

The search for autonomy does not begin in early adolescence, although it may intensify. It is, however, a social characteristic we identify with that stage of development because boys and girls begin to expand their world beyond that of home and family. They form their peer group associations for companionship but continue to turn to parents and adults for models and advice.

> Not only are young adolescents on a continuum of development where autonomy is concerned, they also are in different stages of associative, identificative, and normative autonomy. What we observe during early adolescence is the beginning of detachment from parents, with a wide range of ambivalence caused by changing loyalties, continuing emotional attachments, and strivings toward emotional and physical independence (Lipsitz, pp. 14-15).

Elkind's theory is that the emergence of new cognitive skills (i.e., Piaget's stage of formal operations) enables the child to have a different view of the world. Being new to the adult thinking mode, the young adolescent often has to have a time of adjustment. Elkind explains the dissonance that results this way:

> The capacity to deal with combinatorial logic and to consider all possible factors in a given problem-solving situation, lays the groundwork for some characteristic adolescent reactions. One consequence of the capacity for combinatorial logic is that, particularly in social situations, the adolescent now sees a host of alternatives and decision-making becomes a problem. He now sees, to illustrate, many alternatives to parental directives and is loath to accept the parental alternatives without question. He wants to know not only where a parent stands but also why, and is ready to debate the virtues of the parental alternative over that chosen by himself and his peers. Indeed, the adolescent's quarrels with parental decisions are part of his own indecisiveness. While he is having trouble making decisions for himself, at the same time he does not want others making decisions for him. Paradoxically, but understandably, the adolescent's indecisiveness also frequently throws him into a new dependence, particularly on his peers, but also on his parents. The adolescent demands that his parents take a stand if only so he can rebel against it.
>
> Without denying the validity or importance of the dynamic factors which lie beneath the adolescent's difficulties with his parents, the cognitive aspects of the struggle must be recognized. Were the adolescent not capable of grasping alternatives to parental directives and were he not in turmoil over making his own decisions, at least some of the storm and stress of this period would never appear or at least would appear in quite a different form (p. 101).

Lipsitz cautions that we should not overemphasize early adolescence as a time of "storm and stress." That phrase often translates to mean a time of turbulence and maladjustment. She feels that we often fail to

distinguish between irritating behavior and behavior that is truly disturbed and requires professional help. She cites studies by Daniel Offer (1969), Jerald G. Bachman (1970), and Douvan and Adelson (1966) supporting the notion that adolescence is not a time of extreme distress and turbulence. As a rule, young adolescents experience more continuous development than turbulence. If we expect storm and stress, we may be operating on a set of inappropriate expectations and may perceive the young adolescent's behavior incorrectly. In fact, Offer's study of primarily middle-class suburban high school students concludes that there is less psychic disruption than generally attributed to adolescence. "Stability, not change, is the over-riding characteristic in the psychological patterns of reaction" (Lipsitz, p. 23). So, while "rebelliousness" for the 12- or 13-year-old is a normal part of the process of detachment from parents or adults, it should not be viewed as a negative label, as it often has been.

The rapid physical changes that are occurring in early adolescence may cause fluctuations in attention span, as mentioned earlier. But, this should not be misconstrued to imply that the 12- or 13-year-old cannot attend to a task or make commitments. In fact, the opposite seems to be the case. They are interested in striving for the ideal. This may result in some working diligently for a cause dear to their hearts. It is not unusual to find young adolescents expending great energy on causes from which they will derive little except the satisfaction of having helped someone. In a sense, early adolescence is an "age of commitment" in which young adolescents seek a sense of competence and achievement in activities to which they commit themselves for short periods of time (Lipsitz, p. 15).

Coupled with striving for an ideal and seeking commitments is the young adolescent's strong sense of justice. This is another identifiable social characteristic during this stage of development.

> Young adolescents are often noted for their authoritarianism. This 'law and order' mentality is found in blacks and whites, among girls and boys, in suburbia and inner cities. . . . When young adolescents become capable of recognizing that they are part of a social order, they leave behind the simplistic morality of childhood, in which there is no right or wrong beyond the individual's point of view, and can enter a level of moral reasoning that recognizes socially shared expectations. They see, for the first time, the need for law and order. But it can be a justice not yet tempered with mercy. In their zeal to acknowledge societal needs, they overlook individual rights. One of the tasks ahead is to resolve the conflict between moral absolutism and relativism. Such a resolution is dependent on further cognitive development (Lipsitz, p. 19).

There are numerous other areas of social development. Briefly, by age twelve the young adolescents have a well-developed sense of different roles and have a sense of themselves as individuals. "Each individual develops a generalized portrait of himself [herself] as a person, with feelings of personal 'goodness' or 'badness' that are called his [her] 'feelings of self-esteem'" (Anastasiow, p. 3). There is an interest in earning money. The young adolescent begins an interest in occupational role selection. Competition is keen. All are important to consider in respect to how they are balanced with the major identifiable characteristics -- peer group importance, search for autonomy, challenge to adult authority, "age of commitment," and authoritarianism.

Elkind completes the picture of the young adolescent's state of social flux by tying the social aspects to the new cognitive abilities. It seems reasonable to assume that young adolescents' thoughts shape and influence their experiences. The ability to introspect seems to have two possible social consequences.

> For the first time, the adolescent can take himself as an object, evaluate himself from the perspective of other people with respect to personality, intelligence and appearance. The adolescent's self-consciousness about himself is simply a manifestation of this new capacity for introspection.
>
> This introspection has another consequence that might well be mentioned. The adolescent becomes secretive about his thoughts. He recognizes now that his thought is private and, more importantly, that he can say things which are diametrically opposed to his thoughts.
>
> The adolescent thus begins creating the social disguises, so common in adults and so rare in children, behind which the young person conceals thoughts and wishes that are quite at variance with his verbal assertions. At one extreme these disguises are tact and politeness while at the other extreme they are deceit and exploitation. The potential for both are present as soon as the young person can say one thing and think another and be aware that he is doing so (Elkind, pp. 102-103).

The ability to construct ideals also affects adolescent behavior.

> For one thing, the young person can conceive of ideal families, religions, and societies and when he compares these with his own family, religion, and society, he often finds the latter wanting. Much of adolescent rebellion against adult society derives, in part at least, from this new capacity to construct ideal situations.
>
> The very fact that ideals can be conceived, he believes, means that they can be effortlessly realized without any sacrifice on his part (p. 103).

Summary

The composite profile of a seventh or eighth grader is one of an individual in transition -- an emerging adult in the early stages of adolescence. Because of all the changes occurring, it may be viewed as an exciting time of life, but it may also be a potentially difficult time for the individual.

Physically, 12- and 13-year-olds are in a period of rapid physical change that may make them feel awkward at times. They are more physically diverse as a group than they are at any time prior to this period.

Intellectually, 12- and 13-year-olds may be developing a more flexible and abstract view of the world. Some of the specific thinking abilities they may be developing are:

- dealing with many variables in a problem-solving situation.
- thinking introspectively.
- recognizing their relation to the world in which they live.
- identifying inconsistencies of logic in a set of statements.
- hypothesizing about logical sequences of events.
- speculating about the future.
- recognizing the many uses of language.

They may be in a slow brain growth period in which they want and need to practice formerly acquired skills in more real-life situations.

Socially, 12- and 13-year-olds seem to be searching for some stability within their wider social role. They are intensely self-conscious and very sensitive to peer influence and membership. Acceptance by peers and prestige among peers seems more important to them than adult approval. They must balance their need for close, same-sex friendships and the growing importance of boy-girl relationships. The growth of personal independence continues at this age but is grounded in a world of others. As their world expands beyond home and family, they continue their need for adult guidance while beginning to become more independent of their parents. Because of their changing loyalties and their new ability to see alternatives, young adolescents may challenge adult authority. For most, however, it is a time of searching for stability and a time of continuous development rather than one of extreme rebelliousness and turbulence.

Early adolescence is an "age of commitment" when young adolescents may work diligently for a cause they feel strongly about. They seek a sense of achievement in activities they commit themselves to for short periods of time. Finally, they develop a "law-and-order" mentality as they begin to sense the larger social order of the community, nation, and world.

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A review of the literature of early adolescence was conducted to provide background information for instructional designers and scriptwriters from the Skills Essential to Learning Project, which develops television/film series and related print materials for different grade levels to enhance the teaching of thinking skills in the context of major curriculum areas. Based on traditional development literature supplemented by current research, a profile of how seventh and eight graders see themselves and the world around them was developed. This profile indicates that children at that stage are on the threshold of adulthood and full of energy, though often disorganized and coping with many changes. Physically, 12- and 13-year olds are in a period of rapid physical change that may make them feel awkward at times. Intellectually they may be developing a more flexible and abstract view of the world. Socially, they seem to be searching for some stability within their wider social role. Because of all the changes occurring, this period may be viewed as an exciting time of life, but it may also be a potentially difficult time for the individual. (LMM)

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There is a reason, however, to hope that this situation is being remedied. A recent flourish of interest in curricula for middle schools has created a new demand for information about the middle-school age group, including seventh and eighth graders. The 1980 yearbook of the National Society for the Study of Education (NSSE) reflects this interest in its title, Toward Adolescence: The Middle School Years. In this book, Joan Lipsitz, Director, Center for Early Adolescence, University of North Carolina, has a superb chapter that provides some new perspectives on early adolescence. She defines the age group and then discusses the psycho-social tasks. She dispels a number of misconceptions we have about early adolescence, such as homogeneity of the group, the period of storm and stress in life, and the tyranny of the peer group.

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on brain growth, for example, have prompted speculation on the cognitive needs of middle school age children and the need to reorganize curricula for middle schools (Epstein & Toepfer, 1978). It is too soon to determine how the recent studies, both within education and outside, will affect our perceptions or our developmental theories. But, to help round out the traditional literature, recent studies are cited in this paper that provide insight into the kinds of exciting questions being raised.

It is true, of course, that the developmental literature is rich with the writings and theories of a few traditionally accepted psychologists, such as Jean Piaget and David Elkind. Their work is widely respected and reflected, in large measure, by the body of literature summarized and cited in this paper. But, beyond the updated interpretations of their work, often by other psychologists, there is little.

The central purpose of this paper is to build a profile, based on the best information available, of what seventh and eighth graders are like: How do they see themselves? How do they see the world around them? For this purpose, the traditional developmental literature, supplemented by current research, is complete enough to construct a useful composite profile. The picture that begins to emerge is that of a child on the threshold of adulthood, full of energy though often disorganized, and coping with many changes -- physical, mental, and social. As Dickens might have said: It is the best of times and the worst of times.

Physical Development

Physical changes, such as growth spurts and the appearance of secondary sex characteristics, are the most obvious characteristics of physical de-

velopment for seventh or eighth graders. Other physical changes include the redistribution of body weight and the maturation of the reproductive system. For most, a period of rapid growth, bringing about these physical changes, occurs some time during the years from 10 to 14. But, there is a great deal of variability in development, not only among girls and among boys, but also between the two sexes. Boys often experience increased height and muscle mass, which may bring better athletic skills. It may also bring awkwardness because growth does not take place at the same rate in all parts of the body. Girls begin to mature physically about two years before the boys, with the time taken by girls to reach full physical maturity ranging from one and a half to six years. As a result, 12- and 13-year-old girls and boys are generally more physically diverse than they were in earlier grades.

This period of rapid physical change occurs because the pituitary gland increases production of two hormones. One stimulates the growth of bones and tissues and the other influences sexual development and the appearance of secondary sexual characteristics. The resulting fluctuation in basal metabolism may cause the young adolescent to be extremely restless at certain times and listless at others. In connection with this, the young adolescent's attention span may be shorter than it is either prior to or later than this period of rapid physical change. The young adolescent's rapidly growing and changing body may be difficult to manage, and he or she may feel awkward, gawky or clumsy.

Newman and Newman point out that physical changes for young adolescents have important psychological consequences. They bring the adolescents closer to images of themselves as adults. They strengthen each young adolescent's sex-role identification. They may cause young adolescents to become more

narcissistic and self-involved as a way to cope with the rapidity of body changes. Finally, they may be met with ambivalent feelings that lead young adolescents to seek peer approval and support. This, in turn, may produce additional stress, since an individual may become embarrassed about physical changes that do not meet his or her perceptions of what is needed to gain peer approval.

Intellectual Development

While physical changes are occurring for young adolescents, certain intellectual changes seem to be occurring as well. The physical changes are obvious. The intellectual changes are less obvious and less clear-cut. Presently, the literature gives us some possible perspectives, though none are really well documented.

The traditional developmental literature draws on Piaget's work which suggests that 12- or 13-year-olds begin the shift into the developmental stage of formal operations, the stage of adult thinking abilities. Young adolescents' thoughts become governed more by logical principles rather than by their own perceptions and experiences. They are better able to use formal reasoning and to think more logically about hypothetical situations, such as "What if it rained all the time?"

We should not, however, mistake a potentiality for a universal phenomenon. "The shift to formal operations is unlikely to occur before early adolescence; it is most likely to occur, if at all, during adolescence; it does not necessarily occur" (Lipsitz, p. 17). Unfortunately, there is no clear way to identify those who do make the shift or to estimate how many are likely to. This traditional perspective strongly implies, however, that

enough young adolescents are moving toward formal operations for professionals, in particular, to encourage the growth and development of adult thinking potential at that age.

If and when young adolescents make the shift to formal operations, they begin to develop a more flexible and abstract view of the world. The following list summarizes some of the specific thinking abilities that the literature suggests these young adolescents develop:

- They can think about more than two categories of variables at the same time. They can deal with problems in which many factors operate concurrently, such as the relationship between speed, distance, and time in planning a trip.
- They can do introspective thinking. They can reflect upon their own mental and personality traits.
- They can think about their own relations to the world in which they live.
- They can identify inconsistencies of logic in a set of statements.
- They can hypothesize about the logical sequence of events that might occur. In fact, they can recognize that a sequence of events will lead to a particular consequence and can begin to see that a change in one of the events might prevent that consequence.
- They can speculate about changes in the future. They are interested in the future and in future life styles. This may manifest itself in a budding interest in future career selection.
- They can recognize the use of visual language and body language, as well as the part each can play in making one's point or understanding another's point. They are just beginning to realize that there are different forms of communication and can select forms to meet different purposes.

Another possible perspective on cognitive development is presently emerging from the biological sciences. Herman T. Epstein and Conrad F. Toepfer, Jr., have pioneered research on brain growth. Their work appears to be the biological verification that stages of intellectual development do exist. An article for Educational Leadership in May 1978 succinctly

summarizes the findings of these two researchers:

> The human brain increases in weight from 350 grams at birth to about 1,400 grams at brain maturity at about age 17. This increase has been found to consist of two components. The first component is one that is proportional to the increase in body size. The second component appears in a set of five discrete periods of extra growth, approximately in the age intervals of 3 to 10 months; 2 to 4 years; 6 to 8 years; 10 to 12 years, and 14 to 16 years. These brain growth spurts appear in normal children from quite a number of countries.
>
> The significance of the spurts is likely to reside in some of the special functions of the brain because it would otherwise make no sense to have such a set of spurts. This conjecture turns out to be correct because, if we look at the development of mind (as distinguished from brain), correlated spurts can be found in mental age and a number of intelligence-associated tests such as tests of memory, vocabulary, or language utilization.
>
> There is also evidence that these brain growth spurts correlate in age with learning capacity. Data have established a peak around age 11 and a very low (near zero) value for "gf" (the fluid intelligence factor) around age 13 to 13.5 years. In addition, as can be seen from examining the ages of growth spurts, the spurts appear at the turning points of the classical main stages of Piaget's set of intelligence development periods. These brain growth periods may turn out to be the biological basis of the Piaget stages (Epstein & Toepfer, p. 657).

Brain growth research raises some interesting possibilities. If there is virtually no increase of brain size and mass in the large majority of 12-to-14-year-olds, does that mean that this age group cannot handle the "more complex thinking processes" introduced in seventh and eighth grade? Does it mean young adolescents are less capable of acquiring "new" cognitive skills? Epstein and Toepfer think so. They feel this is a time for maturation in cognitive skills already initiated and learned rather than in the acquisition of new skills. Their advice for seventh and eighth grade is to "avoid introduction of new cognitive skills and include a much larger component of experience and practice of skills already acquired in the cognitive

area" (p. 658). Unfortunately, they do not fully explain what they mean when they talk about "complex thinking processes" or "new cognitive skills" and that leaves some question in regard to a complete interpretation.

An outgrowth of this perspective is a suggestion for restructuring the middle grades program. Epstein and Toepfer feel that the implication of their research is a middle school curriculum offering life-related possibilities. The curricula should "include a large component of experience and practice of skills within opportunities of interaction with nature, society, and people" (p. 660). They feel the middle school experience might have to be moved outside the walls of the school where cognitive information could be taught in relation to outside activities.

It is too soon to determine what this research means in terms of our perceptions on intellectual development for seventh and eighth graders. More research relating biological information to the actual educational experience is needed. In the meantime, brain growth research forces a closer look at the intellectual needs and capabilities of the seventh- and eighth-grade group.

Social Development

A number of the social aspects of the early adolescence phase may be a result of, or certainly related to, physical and intellectual changes. Numerous signs of burgeoning social development are intermeshed with the rapid physical changes and the internal intellectual changes mentioned previously.

Barbara and Phillip Newman state that academic skills that are to be taught should appear as socially valued to young adolescents (Newman &

Newman, p. 1). Certainly the social aspects of schooling increase in importance and intensify for 12- and 13-year-olds. Many of the characteristics of the social development for this age group are easily identifiable. Several authors have recently added new dimension to our understanding of those identifiable social characteristics and the suspected reasons for them.

The most obvious social characteristic is the importance of the peer group. This is a time when boys and girls are very sensitive to peer influence and membership. There is an acute need for acceptance by peers. Prestige among peers is more important than adult approval. They want to be like their peer group. For them, to be different is to be doomed. Their individual feelings of self-esteem are on the line. They are intensely self-conscious because they are concurrently experiencing physical, social, emotional, and idea changes. Consequently, young adolescents need peers and adults to give them a chance to develop a sense of competence.

> The young adolescent needs peer support and companionship in developing new beliefs and values. . . . Friends are the life-line of adolescents during these years. Because they lack a repertoire of experience, they may feel a deep sense of loneliness and a high degree of vulnerability (Lipsitz, p. 24).

Peer membership involves two types of relationships during early adolescence. One is the establishment of close friendships with peers of the same sex. The other is the emerging importance of boy-girl relationships. There is a growing interest in the opposite sex on the part of both boys and girls. This increased interest may stem from the physical maturation of the reproductive system that is occurring at the time.

> Development of primary and secondary sex characteristics as well as the increased sensitivity of these body parts generates thoughts and

> fantasies about heterosexual relationships. In addition, the culture comes to expect that adolescents will begin to date, flirt, and experience tenderness (Newman & Newman, p. 11).

It may be difficult for young adolescents to balance these two types of peer relationships.

> Too much involvement with a boy-girl relationship may isolate young people from less formal, less intense peer contacts. On the other hand, too much concern over peer acceptance and peer group participation may make the possibility for close boy-girl relationships rather remote. The adolescent has to establish a sense of which personal needs can be met by these two kinds of peer contact and learn to balance his [her] involvement appropriately (p. 11).

The growing importance of the peer group does not necessarily mean that young adolescents lose a sense of personal identity or independence. For them, Lipsitz states, "Individuation is grounded in a world of others" (p. 14). Young adolescents are learning to become a part of a group and, at the same time, are establishing a sense of self within a group.

> For this reason the vulnerability of young adolescents to their social milieu is great. Adolescents depend upon others to reflect to them a positive, real image of self that can be integrated with a personal inner image. They are dependent upon society to have a coherent sense of purpose for its young people with which, and in opposition to which, they can define themselves (p. 14).

While young adolescents strive to establish themselves within a peer group, they also search for autonomy. The two seem contradictory. It is this very contradiction that the young adolescent must balance.

The search for autonomy does not begin in early adolescence, although it may intensify. It is, however, a social characteristic we identify with that stage of development because boys and girls begin to expand their world beyond that of home and family. They form their peer group associations for companionship but continue to turn to parents and adults for models and advice.

> Not only are young adolescents on a continuum of development where autonomy is concerned, they also are in different stages of associative, identificative, and normative autonomy. What we observe during early adolescence is the beginning of detachment from parents, with a wide range of ambivalence caused by changing loyalties, continuing emotional attachments, and strivings toward emotional and physical independence (Lipsitz, pp. 14-15).

Elkind's theory is that the emergence of new cognitive skills (i.e., Piaget's stage of formal operations) enables the child to have a different view of the world. Being new to the adult thinking mode, the young adolescent often has to have a time of adjustment. Elkind explains the dissonance that results this way:

> The capacity to deal with combinatorial logic and to consider all possible factors in a given problem-solving situation, lays the groundwork for some characteristic adolescent reactions. One consequence of the capacity for combinatorial logic is that, particularly in social situations, the adolescent now sees a host of alternatives and decision-making becomes a problem. He now sees, to illustrate, many alternatives to parental directives and is loath to accept the parental alternatives without question. He wants to know not only where a parent stands but also why, and is ready to debate the virtues of the parental alternative over that chosen by himself and his peers. Indeed, the adolescent's quarrels with parental decisions are part of his own indecisiveness. While he is having trouble making decisions for himself, at the same time he does not want others making decisions for him. Paradoxically, but understandably, the adolescent's indecisiveness also frequently throws him into a new dependence, particularly on his peers, but also on his parents. The adolescent demands that his parents take a stand if only so he can rebel against it.
>
> Without denying the validity or importance of the dynamic factors which lie beneath the adolescent's difficulties with his parents, the cognitive aspects of the struggle must be recognized. Were the adolescent not capable of grasping alternatives to parental directives and were he not in turmoil over making his own decisions, at least some of the storm and stress of this period would never appear or at least would appear in quite a different form (p. 101).

Lipsitz cautions that we should not overemphasize early adolescence as a time of "storm and stress." That phrase often translates to mean a time of turbulence and maladjustment. She feels that we often fail to

distinguish between irritating behavior and behavior that is truly disturbed and requires professional help. She cites studies by Daniel Offer (1969), Jerald G. Bachman (1970), and Douvan and Adelson (1966) supporting the notion that adolescence is not a time of extreme distress and turbulence. As a rule, young adolescents experience more continuous development than turbulence. If we expect storm and stress, we may be operating on a set of inappropriate expectations and may perceive the young adolescent's behavior incorrectly. In fact, Offer's study of primarily middle-class suburban high school students concludes that there is less psychic disruption than generally attributed to adolescence. "Stability, not change, is the over-riding characteristic in the psychological patterns of reaction" (Lipsitz, p. 23). So, while "rebelliousness" for the 12- or 13-year-old is a normal part of the process of detachment from parents or adults, it should not be viewed as a negative label, as it often has been.

The rapid physical changes that are occurring in early adolescence may cause fluctuations in attention span, as mentioned earlier. But, this should not be misconstrued to imply that the 12- or 13-year-old cannot attend to a task or make commitments. In fact, the opposite seems to be the case. They are interested in striving for the ideal. This may result in some working diligently for a cause dear to their hearts. It is not unusual to find young adolescents expending great energy on causes from which they will derive little except the satisfaction of having helped someone. In a sense, early adolescence is an "age of commitment" in which young adolescents seek a sense of competence and achievement in activities to which they commit themselves for short periods of time (Lipsitz, p. 15).

Coupled with striving for an ideal and seeking commitments is the young adolescent's strong sense of justice. This is another identifiable social characteristic during this stage of development.

> Young adolescents are often noted for their authoritarianism. This 'law and order' mentality is found in blacks and whites, among girls and boys, in suburbia and inner cities. . . . When young adolescents become capable of recognizing that they are part of a social order, they leave behind the simplistic morality of childhood, in which there is no right or wrong beyond the individual's point of view, and can enter a level of moral reasoning that recognizes socially shared expectations. They see, for the first time, the need for law and order. But it can be a justice not yet tempered with mercy. In their zeal to acknowledge societal needs, they overlook individual rights. One of the tasks ahead is to resolve the conflict between moral absolutism and relativism. Such a resolution is dependent on further cognitive development (Lipsitz, p. 19).

There are numerous other areas of social development. Briefly, by age twelve the young adolescents have a well-developed sense of different roles and have a sense of themselves as individuals. "Each individual develops a generalized portrait of himself [herself] as a person, with feelings of personal 'goodness' or 'badness' that are called his [her] 'feelings of self-esteem'" (Anastasiow, p. 3). There is an interest in earning money. The young adolescent begins an interest in occupational role selection. Competition is keen. All are important to consider in respect to how they are balanced with the major identifiable characteristics -- peer group importance, search for autonomy, challenge to adult authority, "age of commitment," and authoritarianism.

Elkind completes the picture of the young adolescent's state of social flux by tying the social aspects to the new cognitive abilities. It seems reasonable to assume that young adolescents' thoughts shape and influence their experiences. The ability to introspect seems to have two possible social consequences.

> For the first time, the adolescent can take himself as an object, evaluate himself from the perspective of other people with respect to personality, intelligence and appearance. The adolescent's self-consciousness about himself is simply a manifestation of this new capacity for introspection.
>
> This introspection has another consequence that might well be mentioned. The adolescent becomes secretive about his thoughts. He recognizes now that his thought is private and, more importantly, that he can say things which are diametrically opposed to his thoughts.
>
> The adolescent thus begins creating the social disguises, so common in adults and so rare in children, behind which the young person conceals thoughts and wishes that are quite at variance with his verbal assertions. At one extreme these disguises are tact and politeness while at the other extreme they are deceit and exploitation. The potential for both are present as soon as the young person can say one thing and think another and be aware that he is doing so (Elkind, pp. 102-103).

The ability to construct ideals also affects adolescent behavior.

> For one thing, the young person can conceive of ideal families, religions, and societies and when he compares these with his own family, religion, and society, he often finds the latter wanting. Much of adolescent rebellion against adult society derives, in part at least, from this new capacity to construct ideal situations.
>
> The very fact that ideals can be conceived, he believes, means that they can be effortlessly realized without any sacrifice on his part (p. 103).

Summary

The composite profile of a seventh or eighth grader is one of an individual in transition -- an emerging adult in the early stages of adolescence. Because of all the changes occurring, it may be viewed as an exciting time of life, but it may also be a potentially difficult time for the individual.

Physically, 12- and 13-year-olds are in a period of rapid physical change that may make them feel awkward at times. They are more physically diverse as a group than they are at any time prior to this period.

Intellectually, 12- and 13-year-olds may be developing a more flexible and abstract view of the world. Some of the specific thinking abilities they may be developing are:

- dealing with many variables in a problem-solving situation.
- thinking introspectively.
- recognizing their relation to the world in which they live.
- identifying inconsistencies of logic in a set of statements.
- hypothesizing about logical sequences of events.
- speculating about the future.
- recognizing the many uses of language.

They may be in a slow brain growth period in which they want and need to practice formerly acquired skills in more real-life situations.

Socially, 12- and 13-year-olds seem to be searching for some stability within their wider social role. They are intensely self-conscious and very sensitive to peer influence and membership. Acceptance by peers and prestige among peers seems more important to them than adult approval. They must balance their need for close, same-sex friendships and the growing importance of boy-girl relationships. The growth of personal independence continues at this age but is grounded in a world of others. As their world expands beyond home and family, they continue their need for adult guidance while beginning to become more independent of their parents. Because of their changing loyalties and their new ability to see alternatives, young adolescents may challenge adult authority. For most, however, it is a time of searching for stability and a time of continuous development rather than one of extreme rebelliousness and turbulence.

Early adolescence is an "age of commitment" when young adolescents may work diligently for a cause they feel strongly about. They seek a sense of achievement in activities they commit themselves to for short periods of time. Finally, they develop a "law-and-order" mentality as they begin to sense the larger social order of the community, nation, and world.

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